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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/990,039  
Filing Date: November 20, 2001  
Appellant(s): GRUNDSTROM, MIKA

**MAILED**

**JUL 24 2007**

**Technology Center 2100**

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Elliot Frank  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 03/03/2006 appealing from the Office action mailed 03/03/2006.

***(1) Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

***(2) Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

***(3) Status of Claims***

The statement of the status of the claims contained in the brief is correct.

***(4) Status of Amendments After Final***

An amendment is filed on 11/30/2005 to add claims 111 and 112.

***(5) Summary of Claimed Subject Matter***

The summary of claimed subject matter contained in the brief is correct.

***(6) Grounds of Rejection to be Reviewed on Appeal***

The appellant's statement of the grounds of rejection to be reviewed on appeal in the brief is correct.

***(7) Claims Appendix***

The copy of the appealed claims contained in the Appendix to the brief is correct.

***(8) Evidence Relied Upon***

US 5544161 A	Bigham et al.	08-1996
US 6216167 B1	Momirov	04-2001
US 6226291 B1	Chauvel et al.	05-2001

***(9) Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 1-3, 5, 7-13, 15, 17-23, 25, 27-30, 63-64, 66, 68-72, 74, 76-80, 82, 84-86 and 111-112 are rejected under 35 U.S.C. 102(a) as being anticipated by Momirov (US 6216167 B1), hereinafter referred as Momirov.

- a. Regarding claim 1, Momirov disclosed a method for constructing a data packet having both a payload segment that carries data associated with a link layer (MAC) or network layer (IP) address and a header segment that has one or more fields, the method comprising: generating an address value based on the IP or MAC address; formatting the address value; and populating the formatted address value into a field of the header that will be used as a selection criteria by a receiving terminal (Fig. 1 and 7; column 1, line 52-column 2, line 4; column 4, line 52-column 6, line 55; column 7, line 9-23; column 8, line 24-65; column 9, line 32-50).
- b. Regarding claim 2, Momirov disclosed the method according to claim 1 wherein the data packet is a multicast or unicast packet (column 1, line 52-column 2, line 4).
- c. Regarding claim 3, Momirov disclosed the method according to claim 1 wherein the IP or MAC address is a multicast or unicast address (column 7, line 9-23; column 8, line 24-65).

- d. Regarding claim 5, Momirov disclosed the method according to claim 1 wherein the address value is formatted in accordance with a protocol (column 1, line 52-column 2, line 4).
- e. Regarding claim 7, Momirov disclosed the method according to claim 1 wherein the selection criteria comprises a subset of the IP or MAC address (column 7, line 9-23; column 8, line 24-65).
- f. Regarding claim 8, Momirov disclosed the method according to claim 1 wherein the selection criteria comprises a subset of the IP or MAC address that has been operated upon by a bitwise logic function (column 10, line 27-column 11, line 8).
- g. Regarding claim 9, Momirov disclosed the method according to claim 1 wherein the IP or MAC address, or a subset thereof, has been operated upon by a hashing function (column 2, line 14-52).
- h. Regarding claim 10, Momirov disclosed the method according to claim 1 wherein the addition of a flag to indicate that the packet is part of a multicast data stream formats the address value (column 10, line 27-column 11, line 8).
- i. Claims 11-13, 15, 17-23, 25, 27-30, 63-64, 66, 68-72, 74, 76-80, 82, 84-86 and 111-112 are of the same scope as claims 1-3, 5 and 7-10. These are rejected for the same reasons as for claims 1-3, 5 and 7-10.

Momirov disclosed all limitations of claims 1-3, 5, 7-13, 15, 17-23, 25, 27-30, 63-64, 66, 68-72, 74, 76-80, 82, 84-86 and 111-112. Claims 1-3, 5, 7-13, 15, 17-23, 25, 27-30, 63-64, 66, 68-72, 74, 76-80, 82, 84-86 and 111-112 are rejected under 35 U.S.C. 102(a).

B. Claims 32-40, 42-50, 52-60, 88-93, 95-100 and 102-107 are rejected under 35 U.S.C. 102(a) as being anticipated by Momirov (US 6216167 B1), hereinafter referred as Momirov.

a. Regarding claim 32, Momirov disclosed a method for selecting a desired data packet from a plurality of data packets, where each packet is associated with an IP or MAC address, the method comprising: generating an expected value for a field in the header based on the IP or MAC address, where said field is used as selection criteria; and examining the field used as selection criteria in each packet of a plurality of incoming packets so as to identify packets that contain the expected value (Fig. 5 and 6; column 1, line 52-column 2, line 4; column 4, line 52-column 6, line 55; column 7, line 9-23; column 8, line 24-65; column 8, line 66-column 9, line 31).

b. Regarding claim 33, Momirov disclosed the method according to claim 32 wherein the data packet is a multicast or unicast packet (column 1, line 52-column 2, line 4).

c. Regarding claim 34, Momirov disclosed the method according to claim 32 wherein the IP or MAC address is a multicast or unicast address (column 7, line 9-23; column 8, line 24-65).

d. Regarding claim 35, Momirov disclosed the method according to claim 32 wherein the IP or MAC address is determined from a table (abstract; column 7, line 9-23; column 8, line 24-65).

- e. Regarding claim 36, Momirov disclosed the method according to claim 32 wherein the anticipated address value is determined solely from the IP or MAC address of the desired data stream (Fig. 5 and 6; column 7, line 9-23; column 8, line 24-65; column 8, line 66-column 9, line 31).
- f. Regarding claim 37, Momirov disclosed the method according to claim 32 wherein the selection criteria comprises a subset of the IP or MAC address (column 7, line 9-23; column 8, line 24-65).
- g. Regarding claim 38, Momirov disclosed the method according to claim 32 wherein the selection criteria comprises a subset of the IP or MAC address that has been operated upon by a bitwise logic function (column 10, line 27-column 11, line 8).
- h. Regarding claim 39, Momirov disclosed the method according to claim 32 wherein the selection criteria comprises a subset of the IP or MAC address that has been operated upon by a hashing function (column 2, line 14-52).
- i. Regarding claim 40, Momirov disclosed the method according to claim 32 wherein a flag value indicates that the packet is part of a multicast data stream (column 10, line 27-column 11, line 8).
- j. Claims 42-50, 52-60, 88-93, 95-100 and 102-107 are of the same scope as claims 32-40. These are rejected for the same reasons as for claims 32-40.

Momirov disclosed all limitations of claims 32-40, 42-50, 52-60, 88-93, 95-100 and 102-107. Claims 32-40, 42-50, 52-60, 88-93, 95-100 and 102-107 are rejected under 35 U.S.C. 102(a).

C. Claims 4, 6, 14, 16, 24, 26, 65, 67, 73, 75, 81, 83 and 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Momirov (US 6216167 B1), hereinafter referred as Momirov as applied to claims 1-3 and 5 above, and further in view of Chauvel et al. (US 6226291 B1), hereinafter referred as Chauvel.

a. Momirov shows (claim 1) a method for constructing a data packet having both a payload segment that carries data associated with a link layer (MAC) or network layer (IP) address and a header segment that has one or more fields, the method comprising: generating an address value based on the IP or MAC address; formatting the address value; and populating the formatted address value into a field of the header that will be used as a selection criteria by a receiving terminal (Fig. 7; column 1, line 52-column 2, line 4; column 4, line 52-column 6, line 55; column 7, line 9-23; column 8, line 24-65; column 9, line 32-50); (claim 2) wherein the data packet is a multicast or unicast packet (column 1, line 52-column 2, line 4); (claim 3) wherein the IP or MAC address is a multicast or unicast address (column 7, line 9-23; column 8, line 24-65); (claim 5) wherein the address value is formatted in accordance with a protocol (column 1, line 52-column 2, line 4). Claims 11, 13, 15, 21, 23 and 25 are of the same scope as claims 1, 3 and 5. Claims 63, 66, 71, 74 and 79 are of the same scope of claims 1-2 and 5. Momirov does not show (claim 4) wherein the packet is part of a Motion Picture Expert Group-level 2 (MPEG2) transport stream; (claim 6) wherein the protocol is MPEG2. However Momirov also shows (claim 4) wherein the field that will be used as selection criteria comprises a one bit flag preceding the

address value, the 12 least significant bits of the IP or MAC address of the payload (column 10, line 27-column 11, line 8).

- b. Chauvel shows (claim 4) wherein the packet is part of a Motion Picture Expert Group-level 2 (MPEG2) transport stream (Fig. 5; column 4, line 47-column 5, line 22); (claim 6) wherein the protocol is MPEG2 (Fig. 5; column 4, line 47-column 5, line 22) in an analogous art for the purpose of transport stream packet parser system.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Momirov's functions of efficient path based forwarding and multicast forwarding with Chauvel transporting function explicitly for MPEG2 application.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to explicitly apply multicast functions over MAC or IP for MPEG2 application as per Momirov and Chauvel's teaching.
- e. Claims 14, 16, 24, 26, 65, 67, 73, 75, 81 and 83 are of the same scope as claims 4 and 6. These are rejected for the same reasons as for claims 4 and 6.
- f. Claim 109 is of the same scope as claims 1-4. It is rejected for the same reasons as for claims 1-4.

Together Momirov and Chauvel disclosed all limitations of claims 4, 6, 14, 16, 24, 26, 65, 67, 73, 75, 81, 83 and 109. Claims 4, 6, 14, 16, 24, 26, 65, 67, 73, 75, 81, 83 and 109 are rejected under 35 U.S.C. 103(a).

D. Claims 41, 51, 61, 94, 101, 108 and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Momirov (US 6216167 B1), hereinafter referred as Momirov as applied to claims 32 and 33 above, and further in view of Chauvel et al. (US 6226291 B1), hereinafter referred as Chauvel.

a. Momirov shows (claim 32) a method for selecting a desired data packet from a plurality of data packets, where each packet is associated with an IP or MAC address, the method comprising: generating an expected value for a field in the header based on the IP or MAC address, where said field is used as selection criteria; and examining the field used as selection criteria in each packet of a plurality of incoming packets so as to identify packets that contain the expected value (Fig. 5 and 6; column 1, line 52-column 2, line 4; column 4, line 52-column 6, line 55; column 7, line 9-23; column 8, line 24-65; column 8, line 66-column 9, line 31); (claim 33) wherein the data packet is a multicast or unicast packet (column 1, line 52-column 2, line 4).

Momirov does not show (claim 41) wherein the packet is part of a Motion Picture Expert Group-level 2 (MPEG2) transport stream. Claims 42, 52, 88, 95 and 102 are of the same scope as claims 32 and 33. However Momirov also shows (claim 41) wherein the field that will be used as selection criteria is a one bit flag preceding the 12 least significant bits of the IP or MAC address of the payload (column 10, line 27-column 11, line 8).

b. Chauvel shows (claim 41) wherein the packet is part of a Motion Picture Expert Group-level 2 (MPEG2) transport stream in an analogous art for the purpose of transport stream packet parser system.

- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Momirov's functions of efficient path based forwarding and multicast forwarding with Chauvel transporting function explicitly for MPEG2 application.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to explicitly apply multicast functions over MAC or IP for MPEG2 application as per Momirov and Chauvel's teaching.
- e. Claims 51, 61, 94, 101 and 108 are of the same scope as claim 41. These are rejected for the same reasons as for claim 41.
- f. Claim 110 is of the same scope as claims 32-33 and 41. It is rejected for the same reasons as for claims 32-33 and 41.

Together Momirov and Chauvel disclosed all limitations of claims 41, 51, 61, 94, 101, 108 and 110. Claims 41, 51, 61, 94, 101, 108 and 110 are rejected under 35 U.S.C. 103(a).

E. Claim 31, 62 and 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Momirov (US 6216167 B1), hereinafter referred as Momirov as applied to claims 1-2 and 32, and further in view of Bigham et al. (US 5544161 A), hereinafter referred as Bigham.

- a. Momirov shows (claim 1) a method for constructing a data packet having both a payload segment that carries data associated with a link layer (MAC) or network layer (IP) address and a header segment that has one or more fields, the method comprising: generating an address value based on the IP or MAC address; formatting the address value; and populating the formatted address value into a field of the

header that will be used as a selection criteria by a receiving terminal (Fig. 7; column 1, line 52-column 2, line 4; column 4, line 52-column 6, line 55; column 7, line 9-23; column 8, line 24-65; column 9, line 32-50); (claim 2) wherein the data packet is a multicast or unicast packet (column 1, line 52-column 2, line 4); (claim 32) a method for selecting a desired data packet from a plurality of data packets, where each packet is associated with an IP or MAC address, the method comprising: generating an expected value for a field in the header based on the IP or MAC address, where said field is used as selection criteria; and examining the field used as selection criteria in each packet of a plurality of incoming packets so as to identify packets that contain the expected value (Fig. 5 and 6; column 1, line 52-column 2, line 4; column 4, line 52-column 6, line 55; column 7, line 9-23; column 8, line 24-65; column 8, line 66-column 9, line 31). Claim 21 is of the same scope as claim 1. Claim 52 is of the same scope as claim 32. Claim 79 is of the same scope as claims 1-2. Momirov does not show (claim 31) wherein the apparatus is a wireless handheld terminal.

- b. Bigham shows (claim 31) wherein the apparatus is a wireless handheld terminal (abstract; column 32, line 8-21) in an analogous art for the purpose of ATM packet demultiplexer for use in full service network having distributed architecture.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Momirov's functions of efficient path based forwarding and multicast forwarding with Bigham transporting function explicitly for wireless personal data assistant.

- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to explicitly apply multicast functions over MAC or IP wireless personal data assistant as per Momirov and Chauvel's teaching.
- e. Claims 62 and 87 are of the same scope as claims 1-2 and 31-32. These are rejected for the same reasons as for claims 1-2 and 31-32.

Together Momirov and Chauvel disclosed all limitations of claims 31, 62 and 87. Claims 31, 62 and 87 rejected under 35 U.S.C. 103(a).

***(10) Response to Argument***

A. In response to Appellant's argument of independent claims 1, 11 and 21 being not anticipated by Momirov:

1. Appellant has alleged that the claimed "constructing a data packet" is distinguishable from forwarding a data packet as performed by Momirov; Momirov places a new header in front or behind the packet containing routing information; and original packet structure is untouched; and the claimed invention are constructed, modified, determined and compiled into a single header. Claim 1 describes a method for constructing a data packet having both a payload segment that carries data associated with a link layer or network layer (IP) address and a header segment that has one or more fields. As one skill in the art would read that these two segments in the data packet as defined in claim 1, i.e. payload and header, and the payload carries "data" associated with a link layer or network layer, i.e. the data packet from either a link layer or a network layer. The payload segment is equivalent to the original packet (structure) of Momirov as appellant described above. The header segment is equivalent to the new header of Momirov as appellant described above.

2. Appellant has further alleged that Momirov deals with routing only within one device having multiple output ports; determining which output ports the data to be routed; the evaluation of the multicast identifier is done completely within the same device; and the claimed invention evaluates the new address value in a different device. Claim 1 merely refers to a receiving terminal. As one skill in the art would read that a terminal per claim 1 is not distinguishable from the port of Momirov per

Appellant's description above. It is the functionalities that Momirov has shown covering the limitations of claim 1, not a specific application of functionalities. Momirov has shown (column 8, line 24-65) mapping IP to an IP multicast group ID or VLAN tag, such as an IEEE 8021.1Q tag to a multicast group identifier that are used for routing through IP network or VLAN that should also cover all the limitations of claim 1.

B. In response to Appellant's argument of dependent claims 8 and 9 being not anticipated by Momirov:

1. Appellant has further alleged that there is no recitation or implication in Momirov that the IP or the MAC address, or a subset thereof, has been operated upon by a bitwise logic function or a hashing function. In the context of depending claim, e.g. claim 1, Momirov has shown (column 10, line 27-column 11, line 8) destination address bits, cell priority bit, multicast flag, i.e. bits to operated upon; and (column 2, line 14-52) that a data and a multicast group identifier are then transferred to a switching card which indexes into a first set of correlation data with a multicast group identifier to identify a set of egress forwarding paths that lead to I/O cards having members of a multicast group corresponding to the multicast group identifier, i.e. hashing function.

C. In response to Appellant's argument of dependent claims 111 and 112 being not anticipated by Momirov:

1. Appellant has alleged the uncertainty of claims 111 and 112 rejection as of the same scope as claims 1-3, 5 and 7-10. Based on the claim language and applied prior art, claims 111-112 were examined and determined to be of the same scope as claims 1-3, 5 and 7-10. Specifically both claims 111-112 contain negative limitations, i.e. "... based only formatted address value" and "... established without the use of tables used to link the PID to the multicast IP address." that are disclosed in the original specification or claims in how these limitation is meet. Here applicant has also disclosed these limitations in the background information as prior art information. Thus these two previous claims are determined to be of the same scope as the cited original claims, i.e. claims 1-3, 5 and 7-10.

D. In response to Appellant's argument of independent claims 63, 71 and 79 being not anticipated by Momirov:

1. Appellant has alleged the uncertainty of claims 63, 71 and 79 rejection as of the same scope as claims 1-3, 5 and 7-10. Appellant had recited the claim 63 indicating the difference from claim 1 as being the limitation of "generating a status vaule to identify the packet as part of a multicast data stream". In the claim 1 rejection, Momirov has shown (Fig. 1; column 1, line 52-column 2, line 4) multicast table for mapping multicast identifier to per port bit vector; (Fig. 7) determining multicast group per cell and a set of taps (for path selection); (column 4, line 52-column 6, line 55) a virtual multicast tap; (column 7, line 9-23) CSMA/CD assumed to be the

medium access method employed by the MACs; (column 8, line 24-65) egress PID to replace MAC address IP multicast routed packet; and (column 9, line 32-50) multicast group identifier used as an index into a set of correlation data, such as the egress path table to retrieve a tap vector. Thus in claim 1 rejection Momirov has shown the limitations of claim 63. Claim 63 is rejected in the same scope as of claim 1 rejection.

E. In response to Appellant's argument of independent claims 32, 42 and 52 being not anticipated by Momirov:

1. Appellant has alleged that the generating as recited in 32, 42 and 52 is at least a calculation or computation that amounts to data manipulation more substantial than looking up information in a cross-reference table. Examiner does not see such a characterization of claimed invention existing in claims 32, 42 and 52 and could not make a determination to include such a characterization in the examination of claim 32, 42 and 52.

F. In response to Appellant's argument of independent claims 88, 95 and 102 being not anticipated by Momirov:

1. Appellant has raised a similar scope issue on claims 88, 95 and 102 as on independent claims 63, 71 and 79. Examiner's response to the argument on independent claims 63, 71 and 79 as in item D should apply.

G. In response to Appellant's argument of independent claims 109 and 110 being not obvious in view of the combined Momirov and Chauvel:

1. Appellant has argued the claim 109 and 110 rejections based upon appellant's arguments on claim 1 and 32 rejections under 35 U.S.C. 102. The same responses to the arguments with respect to claims 1 and 32 above should apply, i.e. item A and E.
- H. In response to Appellant's argument of dependent claims 31, 62 and 87 being not obvious in view of the combined Momirov and Bigham references:
  1. Appellant has argued the motivation of combining Momirov and Bigham references to cover the limitations of claim 31, 62 and 87 rejections under U.S.C. 103(a). As the only limitation not shown by Momirov on claim 31 is the apparatus is a wireless handheld terminal. Bigham shows (abstract) routing broadband MPEG packet through ATM network including RF network; and (column 32, line 8-21) using PDA as a remote IR device for service. Momirov has shown the general art of routing multicast packet in a cell based, e.g. ATM, network for IP multicast or VLAN application. Thus the combination would make up the additional limitation as both arts are addressing similar functions.
  2. Appellant has further argued the claim 31, 62 and 87 rejections based upon appellant's arguments on claim 1, 11 and 21 rejections under 35 U.S.C. 102. The same responses to the arguments with respect to claims 1, 11 and 21 above should apply, i.e. item A.

I. In summary:

1. Momirov has shown the generic art of routing multicast packet through ATM network for applications including for IP multicast or VLAN application showing and using a multicasting flag (column 10, line 48).

2. Chauvel shows more detail how the packet transporting works, including parsing packet, generating address and flags in MPEG application.
3. Bigham shows routing broadband MPEG packet through ATM network including RF network; and using PDA as a remote IR device for service.
4. Together Momirov, Chauvel and Bigham have all appellant claimed invention as shown above in the Grounds of Rejection section.

J. Additional arts are identified to show the general art of transporting packet streams in multicast applications:

1. Wasilewski et al. (US 5870474 A) Method and apparatus for providing conditional access in connection-oriented, interactive networks with a multiplicity of service providers
2. Slattery et al. (US 6064676 A) Remultiplexer cache architecture and memory organization for storing video program bearing transport packets and descriptors and
3. Mao et al. (US 6886178 B1) Digital TV system with synchronized world wide web content
4. HAKULINEN (WO 97020413 A1) PACKET SWITCHING SYSTEM USING TELEPHONIC AND SATELLITE TRANSMISSION

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

*PAS* Peling A Shaw

June 18, 2007

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